

(No Model.)

J. E. REYBURN.  
AIR BRAKE.

No. 568,923.

Patented Oct. 6, 1896.

Fig. 1.

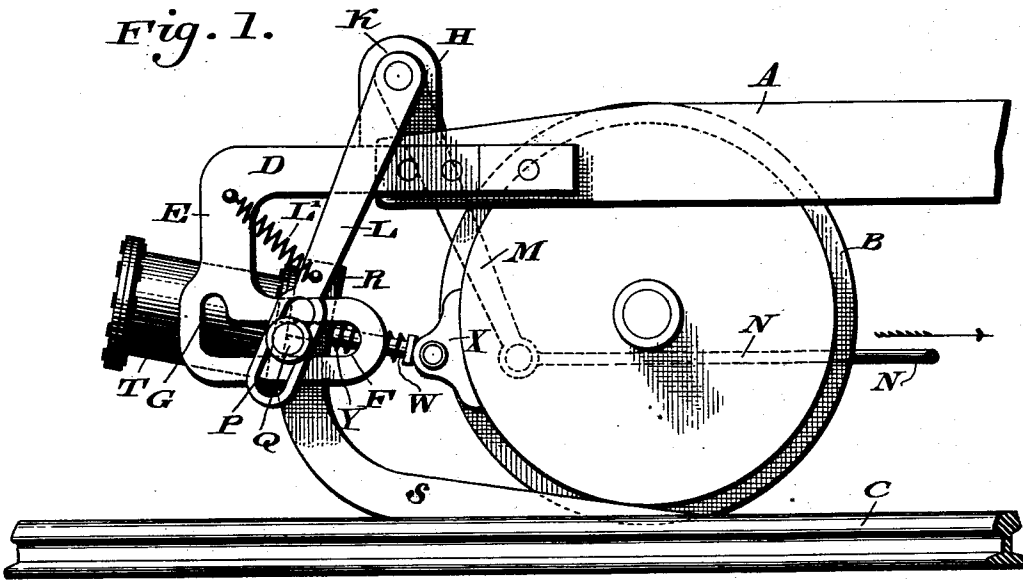
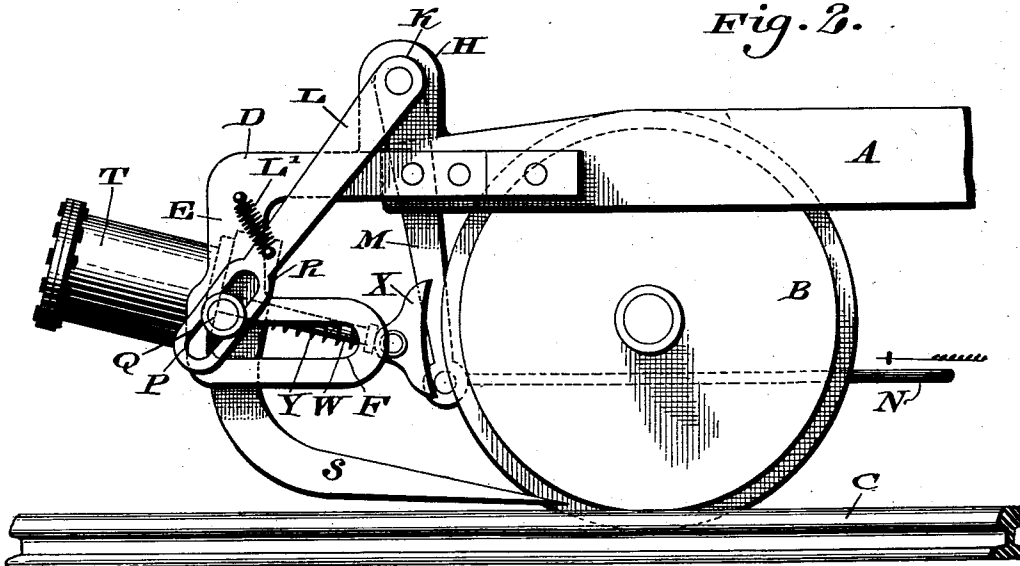


Fig. 2.



WITNESSES:

*P. F. Tagle.*  
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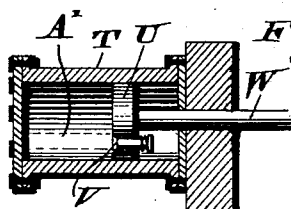


Fig. 3.

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## AIR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 568,923, dated October 6, 1896.

Application filed November 12, 1895. Serial No. 568,667. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN E. REYBURN, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Air-Brakes, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of a novel construction of air-brake in which the compressibility and elasticity of air or other fluid are utilized to absorb the momentum, means being provided by the movement of proper mechanism for interposing an inclined wedge (to be hereinafter termed the "rail-shoe") between a rail and a car-wheel, the latter riding upon said rail-shoe and coming into contact with a brake-shoe mounted on the piston-rod of a piston which moves in a suitable reservoir or air-chamber, which latter is attached to said rail-shoe, the fluid in said reservoir thus being compressed and serving as a cushion to absorb the momentum of the wheel without shock or injury to the car or to any portion of the mechanism.

It further consists of novel details of construction, all as will be hereinafter set forth.

Figures 1 and 2 represent side elevations of an air-brake embodying my invention, the brake being shown in said figures, respectively, as on and off. Fig. 3 represents a sectional view of a cylinder or air-reservoir employed.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A designates a portion of a frame of a truck, upon which the car-wheel B is mounted in any suitable manner, the latter being adapted to run upon the track C, the above parts being of the usual construction.

D designates a bracket or hanger attached to the said frame A, from which depends the arm E, the lower portion thereof having located therein the slot F, which has an upward extension G.

H designates an ear or lug mounted upon said truck-frame, upon which the bell-crank K is fulcrumed, the same consisting of the members L and M, the latter having the brake-rod N pivotally attached thereto, while

the former arm L has a slot P near the extremity thereof.

Q designates a pin or stud, which passes through the said slots P and F and has a suitable shoulder thereon to hold the limb L in position, said stud entering the upper portion R of the rail-shoe S, said portion R being mounted on the cylinder or reservoir T, it thus being evident that the latter and the rail-shoe are supported in position by means of the pin Q, movable in the slots in the arm E and limb L of the lever K, the said lever being normally held in the position seen in Fig. 2 by reason of the spring L', which has one end attached to the bracket D and the other to a limb of said lever.

U designates a piston movable in said cylinder or air-reservoir T, to which piston the rod W is attached, the same having a spring Y mounted thereon, one end of said spring contacting with the cylinder-head, while its other end contacts with the brake-shoe X, mounted upon said rod and adapted to contact with the wheel B, as will be explained.

V designates a valve in the piston U, which is adapted to be seated when the piston moves away from the wheel, said valve being held in position by a suitable spring.

The operation is as follows: The parts are normally in the position seen in Fig. 2, the rail-shoe being raised from the track and the brake-shoe removed from the car-wheel. When it is desired to stop the car, the rod N is operated so as to be moved in the direction of the arrow seen in Fig. 1, thus moving the arms L and M, thereby bringing the rail-shoe upon the track, the car-wheel B riding thereupon until it contacts with the brake-shoe X, as seen in Fig. 1, the brake being now on and the shock between said wheel and brake-shoe being taken up by the elasticity of the air or other fluid contained in the chamber A' of the cylinder T. When it is desired to release the brake, it is only necessary to move the rod N in the direction of the arrow seen in Fig. 2, whereby the parts will assume the position seen in said latter figure and the brakes will be off, the function of the springs L' and Y being evident.

The brake-rod N can be actuated by cylinder-pistons, one under each car, and these

pistons can be supplied with compressed air by a pipe running the length of the train, so coupled at the junction of each car that if a train parts the brakes will be applied automatically, it being evident that if desired the air can be supplied from the pump of an engine and the whole brake operated by the lever in the cab of the engine.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an air-brake, a rail-shoe adapted to be interposed between a car-wheel and the track, a brake-shoe mounted upon a support common to itself and said rail-shoe, said brake-shoe being movable independently of said rail-shoe, and being provided with a cushioning device, and an arm forming a guide for said support, substantially as described.

2. An air-brake consisting of a rail-shoe, a cylinder having a piston therein, and mounted thereon a slotted arm suitably fulcrumed, a pin mounted on said rail-shoe and adapted to engage the slot in said arm, and a brake-shoe attached to the rod of said piston, substantially as described.

3. In a braking apparatus, a bell-crank, one member of which is attached to the brake-

rod, the other having a slot therein, a pin passing through said slot, a rail-shoe, an air-reservoir mounted thereon, said pin engaging said rail-shoe, an arm having a slot therein, in which said pin is movable, and a spring common to said arm and one limb of said bell-crank, substantially as described.

4. In a braking apparatus, the bell-crank K suitably fulcrumed, one limb thereof having a slot therein, a rail-shoe, an air-reservoir mounted thereon, a slotted arm suitably supported, a pin passing through the slot of said lever and arm, and means for holding said bell-crank in position, substantially as described.

5. In an air-brake, a rail-shoe adapted to be interposed between a car-wheel and the track, a brake-shoe movable independently of said rail-shoe, and connected with a swinging support common to itself and to said rail-shoe, and a stationary slotted arm forming a guide for said support, said parts being combined substantially as described.

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Witnesses:

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